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The instant invention concerns a per and a Prebiotika contained micro nutrient combination product, in particular with *Enterococcus faecium*, as well as its use as dietary food for special medical purposes. The micro nutrient combination product according to invention with per and Prebiotika (Orthomol TM immune pro) is to the dietary treatment with disturbances of the Darmflora and the intestine-associated immune system, z. B. with allergies, after chemo and radiation therapy and after antibiotic income suitable. The micro nutrient combination product according to invention with per and Prebiotika supported in particular the defense forces.

It is well known that an intact immune system is an important factor of the human health and a functioning body-own defense offers the best protection opposite attacks of viruses, bacteria and pollutants. The state of the immune system depends in particular on a sufficient nutritiven supply on micro nutrients.

The absorption of micro nutrients from the intestine becomes by many diseases, medicaments as well as by stress hindered. In particular stress-conditional nourishing habits can lead multiple unnoticed to deficits in the vitamin and mineral material supply of the organism and show as sequence negative reactions to the general health.

Most diverse compositions of vitamins and trace elements, which are aligned not however on an holistic stimulation of the entire immune system, contain in the conditions the Vitaminprodukte known of the technique. Thus high proportions at anti-oxidative acting vitamins and trace elements, however no per bio tables cultures contain a majority of these compositions. A drawback of these products is their consideration lacking of the intestine-associated immune system, which is an important organ of the body-own immune defense.

The daily dosage of available products to the support of the immune system will multiple in form of a single tablet or capsule administered, in order to come the need of the consumer to against as simple an application, without possible negative interactions of the ingredients as possible sufficient calculation to inertial. A drawback of the available products consists of the

fact that a combination of per bio tables cultures and the Prebiotikums inulin has a potent exhausting effect if necessary also from vitamin C with common oral administration.

An other drawback is that with many products gastric acid leads to an extensive decomposition per bio tables of the cultures, like lactic acid bacteria. The amount at per bio tables cultures, those in the long run the intestine achieved, is infinitesimal small. Beyond that the number becomes that living the intestine reaching per bio tables cultures in view of poor growth dominant at the effect place and/or. Living conditions still other reduced, so that a potent loss of activity occurs within short time.

It exists therefore a need at a micro nutrient combination product, with which if possible high number at per bio tables cultures the effect place living achieved and the simultaneous substantial extended average life exhibit one. Further a need, a formulated optimal regarding its composition exists and/or. to make available dosed micro nutrient combination product with an improved nutritiven immune stimulation. Besides exists need at an agent, which avoids an exhausting effect reliable.

It is therefore the object of the instant invention to make a micro nutrient combination product available that overcomes the aforementioned drawbacks of the state of the art. In particular it is the object of the instant invention to make an agent available that a comprising nutritive stimulation of the immune system offers.

This object becomes by a formulated Probiotika contained micro nutrient combination product dissolved optimized regarding its ingredients, which covers at least two product portions with different composition, whereby a first portion covers Probiotika as effective ingredients and a second portion as effective ingredients Prebiotika and/or. Präbiotika, trace elements, vitamins and secondary plant materials cover.

Particularly preferred becomes this object by a formulated Probiotika contained micro nutrient combination product dissolved optimized regarding its ingredients, which covers at least two product portions with different composition, whereby a first product as effective ingredients exclusive Probiotika enclosure and the second product is free of Probiotika and as effective ingredients Prebiotika, trace elements, vitamins and covers secondary plant materials.

Per bio tables cultures of the Probiotika of contained micro nutrient combination product selected lactobacillus comprising from the group is acidophilus, lactobacillus casei, lactobacillus crispatus, lactobacillus gallinarum, lactobacillus gas series, lactobacillus johnsonii, lactobacillus paracasei, lactobacillus plantarum, lactobacillus reuteri, lactobacillus rhamnosus, lactobacillus salivarius, Bifidobacterium adolescentis, Bifidobacterium animalis, Bifidobactenum bifidum, Bifidobacterium breve, Bifidobacterium infantis, Bifidobactenum lactis, Bifidobactenum longum, Enterococcus faecalis, Enterococcus faecium, Lactococci lactis, Leuc. mesenteroides, Ped. acidilactici, Sporolactobacillus inulinus, Strep. thermophilus, bacillus cereus, Escherichia

coli, *Propionibacterium freudenreichii* and/or *Saccharomyces cerevisiae*, preferably *Bifidobacterium lactis*, *Bifidobacterium animalis*, *Lactococci lactis*, *Lactobacillus acidophilus*, *Lactobacillus casei*, *Lactobacillus salivarius* and/or *Enterococcus faecium*.

A particular advantage is that by the use according to invention of per bio tables cultures, comprising lactic acid bacteria, like *Bifidobacterium lactis*, *Bifidobacterium animalis*, *Lactococci lactis*, *Lactobacillus acidophilus*, *Lactobacillus casei*, *Lactobacillus salivarius* and/or *Enterococcus faecium*, in sequence formed lactic acid the pH value in the intestinal tract lowered, whereby trace elements, in particular irons and zinc, better into solution to go and thereby into increased measures to be absorbed be able. Beyond that per bio tables the cultures can the absorbing surface of the intestine increase and thus further to an increase of the absorption contribute.

Particularly preferred is with the Probiotika according to invention contained micro nutrient combination product the combination *Enterococcus faecium* and lactic acid bacteria.

Surprising shown has itself that in particular the bacterium *Enterococcus* shows used according to invention per bio tables faecium a significant improving influence to the effectiveness of the lactic acid bacteria. *Enterococcus faecium* can lower the pH value of the intestine in the front region of the intestine on the basis of the stomach. Under this *Vorsäuerung* the growth rate becomes and/or. - speed per bio tables of the cultures, in particular the lactic acid bacteria, significant increased, so that the pH value in the intestine continues to sink, which leads to an additional increase of the rate rate per bio tables of the cultures in the intestine.

An other advantageous effect of the micro nutrient combination product according to invention is that the increased number of living lactic acid bacteria in the intestine the penetration of viruses, pathogenic bacteria and toxins reduced. Surprising one has itself shown that the use of the mixture according to invention per bio tables of the bacterial strains as complementary diet, in particular comprising with the use of the strain *Enterococcus faecium*, a significant increase of the production of specific antibodies, as sIgA and natural killer cells effected.

The Probiotika contained micro nutrient combination product covers according to invention Prebiotika selected inulin, Fructooligosaccharide and beta comprising from the group - glucan.

Surprising shown has itself that the micro nutrient combination product according to invention contributes by the addition of the Prebiotikums inulin to the survival per bio tables of the cultures in the intestine.

The vitamins, which the Probiotika contained micro nutrient combination product covers, are selected according to invention vitamin A, vitamin C, natural vitamin E, vitamin B1, vitamin B2, Niacin, vitamin B6, vitamin B12, vitamin c1, vitamin D3, folic acid, Panthothensäure and/or biotin comprising from the group.

The secondary plant materials of the Probiotika contained micro nutrient combination product are selected according to invention carotenoids and Bioflavonoide comprising from the group

Favourably further the optimized composition is concerning the content at vitamin C, inulin and per bio tables cultures, whereby an exhausting effect becomes due to to high vitamins C-contents with simultaneous presence of inulin and per bio tables cultures avoided. Besides a combination of vitamin is C and Bioflavonoiden of advantage, whereby the ernährungshysiologische activity vitamin of C and its function favourably supplemented can become.

The trace elements, which the Probiotika contained micro nutrient combination product covers, are selected calcium, selenium, iron, zinc, comprising from the group, manganese, copper, chromium, molybdenum, iodine, phosphorus, magnesium, potassium and/or chloride, preferably selenium, iron, zinc, manganese, copper, chromium, molybdenum and/or iodine.

It has itself shown that by the optimized content at trace elements, like selenium, iron, zinc, manganese, copper, chromium, molybdenum and/or iodine a significant better stimulation of the immune system occurs an increase of the defense forces including the intestine-associated immune system and thus. This is important to the dietary treatment with disturbances of the Darmflora and the intestine-associated immune system, z. B. with allergies, after chemo and radiation therapy, after antibiotic income.

The term “dietary treatment” is in the European Union guideline 1999/21/EG, since 01.01.2002 as 10. Regulation to the change of the Diätverordnung into German right reacted, more near explained.

An other advantage of the micro nutrient combination product according to invention exists in the synergetic effect regarding a comprising holistic stimulation of the body-own immune system. The immune system is strengthened by the optimized combination of the vitamins and trace elements, in particular the vitamins C and E, selenium and zinc. Beyond that the intestine, which represents an important part of the human immune system, becomes based. Z lead the extended life per bio tables of the cultures and the low pH value conditional thereby beyond that in small intestine to an improved absorption of the trace elements as well as to an increased own synthesis of vitamins. B. Thiamin, riboflavin vitamin B12 and folic acid, which the humans additional absorb.

The products of the Probiotika of contained micro nutrient combination product can be present firm, liquid and/or gelförmig.

In a preferable embodiment the ingredients of the Probiotika of contained micro nutrient combination product in form of at least two separate present products are preferably present, in form of at least three separate present products and particularly preferred at least four present

products separate in form.

The Probiotika according to invention covers contained micro nutrient combination product at least a separate present first product of comprising as effective ingredients per bio tables cultures, preferably Bifidobacterium lactis, Bifidobacterium animalis, Lactococci lactis, Enterococcus faecium, lactobacillus acidophilus, lactobacillus casei, lactobacillus salivarius; and at least a second separate present product comprising as effective ingredients vitamin A, vitamin C, vitamin E, vitamin B1, vitamin B2, Niacin, vitamin B6, vitamin B12, vitamin c1, vitamin D3, folic acid, pantothenic acid, biotin, selenium, iron, zinc, manganese, copper, chromium, molybdenum, iodine, carotenoids, Bioflavonoide, inulin.

An other advantageous effect of the Probiotika of contained micro nutrient product results from the possibility of a separate administration that separate present products. It is known that a large part received per bio tables of the bacteria by the gastro-intestinal tract it does not survive the passage and small amounts of living lactic acid bacteria are not sufficient to lower the pH value of the intestine effective. According to invention the Probiotika can cover contained micro nutrient combination product first granulates, the which covers exclusive per bio tables cultures, and second granulates, which is free of Probiotika and which covers vitamins, trace elements, secondary plant materials and inulin. For example that can become per bio tables cultures the contained granulates preferably separate of the meals and the second granulates administered, so that the cultures can reach the intestine bottom smaller damage by decomposing acidic ones. These lactic acid bacteria can already unfold in small intestine their activity and degrade by their lactic acid production the pH value in the thin and large intestine, so that a later time the absorption becomes the intestine reaching trace elements by the activity of the lactic acid bacteria increased.

Favourable it is further that an high number of living lactic acid bacteria can settle in the intestinal tract, which show a significant increase of their life by the amount according to invention of the Prebiotikums inulin. This increase of the life the extended time interval standing for an effective absorption for the order. This is in particular of major advantage, there the absorption of the vital materials for their part some time required. By these advantageous properties the use of the agent according to invention leads also to an improved blood plasma mirror of the micro nutrients.

Preferably the Probiotika contained micro nutrient combination product of comprising at least two products with different composition is present in the form of 0 to 10 tablets, preferably 1 to 5 tablets, 0 to 10 capsules, preferably 1 to 5 capsules, 0 to 5 solutions, preferably 1 to 2 solutions and/or 0 to 5 granulates, preferably 1 to 3 granulates.

It has itself shown that granulates in particular represent the most compatible dosage form for the intestine. Favourable it is beyond that that this granular form an increased solubility of the components ensured. An ingestion in the form of tablets or also film tablets can lead to the fact

that the ingredients in stomach and intestine become timed different released, which can lead to a delayed and deteriorated absorption.

The Probiotika contained micro nutrient combination product can cover additions, which the bioavailability, solubility and/or release speed to improve and/or additions, selected disintegrants comprising from the group, cloths the shelf life to improve, taste-masking and/or taste-improving cloths, cloths to the increase or reduction of the viscosity, to exhibit.

The Probiotika contained micro nutrient combination product can cover additions, which selected dextrose comprising from the group, maltodextrin, corn starch, natural orange flavour, acidifying means citric acid, gum Arabic, Fructooligosaccharide, Saccharin sodium and/or enzymes to be to be able.

The first separate present product of the Probiotika of contained micro nutrient combination product knows, related to a daily dosage, as effective ingredients exclusive 2×10^9 KBE of per bio tables cultures cover and the second separate present product of free of per bio tables cultures its and, plant materials secondary related to a daily dosage, 0.3-0.5 g of vitamins, 9-11 mg of trace elements, 2 g Prebiotika and 20-30 mg cover.

The managing quantity specifications are, since the micro nutrient combination product can contain also additions, escort substances and/or raw materials, the many severe are only exemplary as that and/or. the actual active ingredients, so that the indicated amounts can be natural substantial related to a daily dosage lower or also higher.

The Probiotika can contain also Fructooligosaccharide to the early support of the cultures.

It has itself shown that the agent according to invention exhibits an improved effect concerning a balanced supply of vitamins and trace elements combined with optimized use and compatibility per bio tables of the cultures. In the properties and features of the vitamins, per bio tables cultures and the Prebiotikums inulin in relation to conventional compositions an improved nourish-physiological effect exhibits the compositions according to invention regarding disturbances of the Darmflora and the intestine-associated immune system.

The Probiotika according to invention contain-ends micro nutrient product is in particular more useful to the dietary treatment with disturbances, complaints or diseases, selected from the group comprising:

- Allergies like atopic eczema, allergic asthma, Rhinitis allergica, food allergy;
- after chemo and radiation therapy;
- after antibiotic income;
- Gastroenteritides;
- Laktoseintoleranz;

- chronic-inflammatory bowel diseases such as colitis ulcerosa, disease Crohn;
- hepatic Enzephalopathie; and/or
- Hypercholesterolemia.

It has itself shown that with administration of the micro nutrient product according to invention alone or in combination with drugs, disturbances, complaints or diseases, how indicated above, noticeably reduced and/or rapid gentle ones become or even to arise, compared with conventional micro nutrient combination products known in the conditions of the technique. Without being on a particular theory fixed, becomes suspected that the combination Enterococcus could be faecium and lactic acid bacteria a for this responsible, since Enterococcus shows faecium a significant improving influence to the effectiveness of the lactic acid bacteria. As already described can lower Enterococcus faecium the pH value of the intestine in the front region of the intestine on the basis of the stomach. Under this Vorsäuerung the growth rate becomes and/or. - speed per bio tables of the cultures, in particular the lactic acid bacteria, significant increased, so that the pH value in the intestine continues to sink.

In addition is the Probiotika according to invention contain-end micro nutrient products suitable as food auxiliary means. It has itself shown that in particular a lack of micro nutrient can become with organisms, in particular humans, balanced.

The first separate present product portion of the Probiotika of contained micro nutrient combination product can as effective ingredients, related to a daily dosage:

a) 5×10^8 - 5×10^9 KBE, preferred $1-3 \times 10^9$ KBE, per bio tables cultures selected Bifidobacterium comprising from the group lactis, Bifidobacterium animalis, Lactococci lactis, Enterococcus faecium, lactobacillus acidophilus, lactobacillus casei, lactobacillus salivarius; cover and the second separate present product portion can, related to a daily dosage, when effective ingredients cover the cloths:

- a) 1000-4000 IE, preferred 2000-3000 IE, vitamin A;
- b) 100-500 mg, preferred 200-400 mg, vitamin C;
- c) 10-80 mg, preferred 25-45 mg, natural vitamin E;
- d) 1-6 mg, preferred 2-4 mg, vitamin B1;
- e) 1-7 mg, preferred 3-4 mg, vitamin B2;
- f) 10-80 mg, preferred 25-45 mg, Niacin;
- g) 1-7 mg, preferred 3-4 mg vitamin B6;
- h) 1-10 μ g, preferred 3-7 μ g, vitamin B12;
- i) 10-100 μ g, preferred 30-70 μ g, vitamin c1;
- j) 1-10 μ g, preferred 4-6 μ g, vitamin D3;
- k) 200-1000 μ g, preferred 400-800 μ g, folic acid;
- l) 5-50 mg, preferred 10-25 mg, Panthothensäure;
- m) 50-300 μ g, preferred 150-225 μ g, biotin;

- n) 5-80 mu g, preferred 20-50 mu g, selenium;
- o) 0.5-10 mg, preferred 1-4 mg, irons;
- p) 3-15 mg, preferred 5-10 mg, zinc;
- q) 0.3-3 mg, preferred 0.5-2 mg, manganese;
- r) 0.2-3 mg, preferred 0.4-2 mg, coppers;
- s) 10-100 mu g, preferred 20-50 mu g, chromium;
- t) 10-100 mu g, preferred 30-60 mu g, molybdenum;
- u) 50-200 mu g, preferred 100-150 mu g, iodine;
- v) 1-15 mg, preferred 3-7 mg, carotenoids;
- w) 5-50 mg, preferred 15-30 mg, Bioflavonoide;
- x) 1-6 g, preferred 2-4 g, inulin.

The subject-matter of the instant invention becomes more near explained on the basis the subsequent example.

Example 1

Probiotika contained micro nutrient combination product of comprising two granulates I and II different composition:

Granulates I:

2 x 10⁹ KBE of per bio tables cultures, comprising Bifidobacterium lactis and/or. animalis, Lactococci lactis, Enterococcus faecium, lactobacillus acidophilus, lactobacillus casei, lactobacillus salivarius;

As adjuvants become corn starch, maltodextrin, Fructooligosaccharide, and/or enzymes added.

Granulates II:

- 2500 IE vitamin A
- 300 mg vitamin C;
- 36 mg natural vitamin E;
- 3 mg vitamin B1;
- 3.6 mg vitamin B2;
- 35 mg Niacin;
- 3.6 mg vitamin B6;
- 6 mu g vitamin B12;
- 60 mu g vitamin c1;
- 5 mu g vitamin D3;
- 800 mu g folic acid;
- 18 mg Panthothensäure;
- 180 mu g biotin;
- 30 mu g selenium;
- 2 mg irons;

- 7 mg zinc;
- 500 µg manganese;
- 500 µg copper;
- 30 µg chromium;
- 50 µg molybdenum;
- 100 µg iodine;
- 5 mg of carotenoids;
- 20 mg Bioflavonoids;
- 2 g inulin.

As adjuvants dextrose, maltodextrin, corn starch, natural orange flavour, becomes acidifying means citric acid, and/or gum Arabic and Saccharin sodium added.

The declarations of weight, if not differently indicated, relate itself on a daily dosage.

Table I EMI5.1

Table I shows a comparison of the effect of conventional micro nutrient products various compositions to the immune system. It is to be taken from the table I that a significant stimulation of the immune system became by the combined administration of probiotischer cultures and the Prebiotikums inulin in particular probiotischer cultures, inulin and trace elements achieved. It points out itself that a supply, which exhibits a combination according to invention of per bio tables cultures, vitamins, trace elements and inulin beside the per bio tables cultures and vitamins in particular an improved effect regarding the stabilization of the entire body-own immune system.

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1. Probiotika contained micro nutrient combination product, characterised in that the micro nutrient combination product of at least two product portions with different composition covers, whereby a first portion as effective ingredients Probiotika enclosure and the second portion covers Prebiotika, trace elements, vitamins and secondary plant materials as effective ingredients.
2. Probiotika contained micro nutrient combination product according to claim 1, characterised in that per bio tables the cultures selected are from the group comprising lactobacillus acidophilus, lactobacillus casei, lactobacillus crispatus, lactobacillus gallinarum, lactobacillus gas series, lactobacillus johnsonii, lactobacillus paracasei, lactobacillus plantarum, lactobacillus reuteri, lactobacillus rhamnosus, lactobacillus salivarius, Bifidobacterium adolescentis, Bifidobacterium animalis, Bifidobacterium bifidum, Bifidobacterium breve, Bifidobacterium infantis, Bifidobacterium lactis, Bifidobacterium longum, Enterococcus faecalis, Enterococcus faecium, Lactococci lactis, Leuc. mesenteroides, Ped. acidilactici, Sporolactobacillus inulinus, Strep. thermophilus, bacillus cereus, Escherichia coli, Propionibacterium freudenreichii and/or Saccharomyces cerevisiae, preferably Bifidobacterium lactis, Bifidobacterium animalis, Lactococci lactis, lactobacillus acidophilus, lactobacillus casei, lactobacillus salivarius and/or Enterococcus faecium.
3. Probiotika contained micro nutrient combination product according to claim 1 or 2, characterised in that the combination Enterococcus faecium and lactic acid bacteria particularly preferred is.
4. Probiotika contained micro nutrient combination product after one of the previous claims, characterised in that the Prebiotika selected are from the group comprising inulin, Fructooligosaccharide and beta - glucan.
5. Probiotika contained micro nutrient combination product after one of the previous claims, characterised in that the vitamins selected are from the group comprising vitamin A, vitamin C, natural vitamin E, vitamin B1, vitamin B2, Niacin, vitamin B6, vitamin B12, vitamin c1, vitamin

D3, folic acid, Panthothensäure and/or biotin.

6. Probiotika contained micro nutrient combination product after one of the previous claims, characterised in that the trace elements selected are from the group comprising calcium, selenium, iron, zinc, manganese, copper, chromium, molybdenum, iodine, phosphorus, magnesium, potassium and/or chloride, preferably selenium, iron, zinc, manganese, copper, chromium, molybdenum and/or iodine.

7. Probiotika contained micro nutrient combination product after one of the previous claims, characterised in that secondary plant material selected are from the group comprising carotenoids, like beta carotene, alpha carotene, Lykopin and Lutein as well as Bioflavonoide such as Citrus Bioflavonoide.

8. Probiotika contained micro nutrient combination product after one of the previous claims, characterised in that the portion of the Probiotika of contained micro nutrient combination product firm, liquid and/or gelförmig are present.

9. Probiotika contained micro nutrient combination product after one of the previous claims, characterised in that the micro nutrient combination product in form of at least two separate present product portions, in form of at least three separate present product portions and particularly preferred at least four present product portions separate in form is preferably present, whereby a first product portion covers Probiotika as effective ingredients enclosure and a second product portion as effective ingredients Prebiotika.

10. Probiotika contained micro nutrient combination product after one of the previous claims, characterised in that the Probiotika contained micro nutrient combination product of comprising at least two portions with different composition in the form of 0 to 10 tablets, preferred 1 to 5 tablets, 0 to 10 capsules, preferred 1 to 5 capsules, 0 to 5 solutions, preferred 1 to 2 solutions and/or 0 to 5 granulates, preferred 1 to 3 granulates, is present.

11. Probiotika contained micro nutrient combination product after one of the previous claims, characterised in that the Probiotika contained micro nutrient combination product at least a separate present first product of comprising as effective ingredients per bio tables cultures, preferably Bifidobacterium lactis, Bifidobacterium animalis, Lactococci lactis, Enterococcus faecium, lactobacillus acidophilus, lactobacillus casei, lactobacillus salivarius; and at least a second separate present product comprising as effective ingredients vitamin A, vitamin C, vitamin E, vitamin B1, vitamin B2, Niacin, vitamin B6, vitamin B12, vitamin c1, vitamin D3, folic acid, pantothenic acid, biotin, selenium, iron, zinc, manganese, copper, chromium, molybdenum, iodine, carotenoids, Bioflavonoide, inulin covers.

12. Probiotika contained micro nutrient combination product after one of the previous claims, characterised in that the Probiotika contained micro nutrient combination product of additions

exhibits, which improve the bioavailability, solubility and/or release speed and/or cloths improve additions, selected disintegrants comprising from the group, the shelf life, taste-masking and/or taste-improving cloths, cloths to the increase or reduction of the viscosity, exhibits.

13. Probiotika contained micro nutrient combination product after one of the previous claims, characterised in that the Probiotika contained micro nutrient combination product of additions, selected dextrose comprising from the group, maltodextrin, inulin, corn starch, natural orange flavour, acidifying means citric acid, gum Arabic, Fructooligosaccharide, Saccharin sodium and/or enzymes covers.

14. Probiotika contained micro nutrient combination product after one of the previous claims, characterised in that the first separate present product, related to a daily dosage, 2×10^9 KBE of per bio tables cultures enclosure and the second separate present product, related to a daily dosage, 0.3-0.5 g of vitamins, 9-11 mg of trace elements, 2 g Prebiotika and 20-30 mg of secondary plant materials covers.

15. Probiotika contained micro nutrient combination product after one of the previous claims, characterised in that the first separate present product as effective ingredients, related to a daily dosage:

a) 5×10^8 - 5×10^9 KBE, preferred $1-3 \times 10^9$ KBE, per bio tables cultures selected Bifidobacterium comprising from the group lactis Bifidobacterium animalis, Lactococci lactis, Enterococcus faecium, lactobacillus acidophilus, lactobacillus casei, lactobacillus salivarius; covered, and
the second separate present product, related to a daily dosage, when effective ingredients covers the cloths:

- a) 1000-4000 IE, preferred 2000-3000 IE, vitamin A;
- b) 100-500 mg, preferred 200-400 mg, vitamin C;
- c) 10-80 mg, preferred 25-45 mg, natural vitamin E;
- d) 1-6 mg, preferred 2-4 mg, vitamin B1;
- e) 1-7 mg, preferred 3-4 mg, vitamin B2;
- f) 10-80 mg, preferred 25-45 mg, Niacin;
- g) 1-7 mg, preferred 3-4 mg vitamin B6;
- h) 1-10 μ g, preferred 3-7 μ g, vitamin B12;
- i) 10-100 μ g, preferred 30-70 μ g, vitamin c1;
- j) 1-10 μ g, preferred 4-6 μ g, vitamin D3;
- k) 200-1000 μ g, preferred 400-800 μ g, folic acid;
- l) 5-50 mg, preferred 10-25 mg, Panthothensäure;
- m) 50-300 μ g, preferred 150-225 μ g, biotin;
- n) 5-80 μ g, preferred 20-50 μ g, selenium;
- o) 0.5-10 mg, preferred 1-4 mg, irons;

- p) 3-15 mg, preferred 5-10 mg, zinc;
- q) 0,3-3 mg, preferred 0.5-2 mg, manganese;
- r) 0.2-3 mg, preferred 0.4-2 mg, coppers;
- s) 10-100 µg, preferred 20-50 µg, chromium;
- t) 10-100 µg, preferred 30-60 µg, molybdenum;
- u) 50-200 µg, preferred 100-150 µg, iodine;
- v) 1-15 mg, preferred 3-7 mg, carotenoids;
- w) 5-50 mg, preferred 15-30 mg, Bioflavonoide;
- x) 1-6 g, preferred 2-4 g, inulin.

16. Probiotika contained micro nutrient combination product after one of the previous claims, characterised in that the first separate present product as effective ingredients, related to a daily dosage:

a) 2 x 10⁹ KBE of per bio tables cultures selected Bifidobacterium comprising from the group lactis, Bifidobacterium animalis, Lactococci lactis, Enterococcus faecium, lactobacillus acidophilus, lactobacillus casei, lactobacillus salivarius;
covered and the second separate present product, related to a daily dosage, when effective ingredients covers the cloths:

- a) 2500 IE vitamin A
- b) 300 mg vitamin C;
- c) 36 mg natural vitamin E;
- d) 3 mg vitamin B1;
- e) 3.6 mg vitamin B2;
- f) 35 mg Niacin;
- g) 3.6 mg vitamin B6;
- h) 6 µg vitamin B12;
- i) 60 µg vitamin c1;
- j) 5 µg vitamin D3;
- k) 800 µg folic acid;
- l) 18 mg Panthothensäure;
- m) 180 µg biotin;
- n) 30 µg selenium;
- o) 2 mg irons;
- p) 7 mg zinc;
- q) 500 µg manganese;
- r) 500 µg coppers;
- s) 30 µg chromium;
- t) 50 µg molybdenum;
- u) 100 µg iodine;
- v) 5 mg of carotenoids;
- w) 20 mg Bioflavonoide;

x) 2 g inulin.

17. Micro nutrient product after one of the previous claims to the preparation of an agent to the dietary treatment with disturbances, complaints or diseases, selected from the group comprising contain-ends to use of a Probiotika:

Allergies like atopic eczema, allergic asthma, Rhinitis allergica, food allergy;

after chemo and radiation therapy;

after antibiotic intake;

Gastroenteritis;

Laktoseintoleranz;

chronic-inflammatory bowel diseases such as colitis ulcerosa, disease Crohn;

hepatic Encephalopathy; and/or

Hypercholesterolemia.

18. Contain-end to use of a Probiotika micro nutrient product after one of the previous claims as agents for food addition.